

WHAT IS CLAIMED IS:

1. A semiconductor substrate comprising:

first and second surfaces; and

5 an oxide film apart from said first and second surfaces and extending throughout said semiconductor substrate.

2. The semiconductor substrate according to claim 1 wherein the distance between said oxide film and said second surface corresponds to a thickness on the order of
10 10^{-3} of a thickness of said semiconductor substrate.

3. The semiconductor substrate according to claim 1 wherein said oxide film has a thickness of 400 to 1000 nm.

15 4. The semiconductor substrate according to claim 2 wherein said oxide film has a thickness of 400 to 1000 nm.

5. The semiconductor substrate according to claim 1 further comprising an epitaxial layer disposed on said first surface.

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6. The semiconductor substrate according to claim 2 further comprising an epitaxial layer disposed on said first surface.

7. The semiconductor substrate according to claim 3 further comprising an
25 epitaxial layer disposed on said first surface.

8. The semiconductor substrate according to claim 4 further comprising an epitaxial layer disposed on said first surface.

5 9. A semiconductor device comprising:
a semiconductor substrate having first and second surfaces;
an oxide film apart from said first and second surfaces, and extending throughout
said semiconductor substrate;
an epitaxial layer disposed on said first surface; and
10 a semiconductor element disposed in said epitaxial layer.

10 10. The semiconductor device according to claim 9 wherein the distance
between said oxide film and said second surface corresponds to a thickness on the order of
 10^{-3} of a thickness of said semiconductor substrate.

15 11. The semiconductor device according to claim 9 wherein said oxide film has
a thickness of 400 to 1000 nm.

20 12. The semiconductor device according to claim 10 wherein said oxide film
has a thickness of 400 to 1000 nm.

13. A method of manufacturing a semiconductor device comprising the steps
of:

(a) providing a semiconductor substrate having first and second surfaces; and
25 (b) forming an oxide film apart from said first and second surfaces and extending

throughout said semiconductor substrate.

14. The method of manufacturing a semiconductor device according to claim 13 wherein said step (b) includes the steps of:

5 (b-1) introducing oxygen ion into said semiconductor substrate from said second surface; and

(b-2) performing heat treatment after said step (b-1).

15. The method of manufacturing a semiconductor device according to claim 10 14 further including the step (c), after said step (b), of forming an epitaxial layer on said first surface.

16. The method of manufacturing a semiconductor device according to claim 15 further including the step (d) of making a semiconductor element by using said epitaxial 15 layer.